

REMARKS

The Examiner requested clarification of the amendments made in the response filed December 21, 2006. Specifically, the Examiner requested that Applicants point out the support for the amendments to the claims. With regard to the amendments of claim 1, Applicants added that the nail had a longitudinally extending shank which is shown in the FIGS. and described in paragraph [0016] of the application. As discussed in paragraph [0016] in the preferred embodiment the shank is curved or bent at 16 however the nail could be completely straight. The curved, bent or straight nail is of a conventional structure widely known in the art. Also discussed in paragraph [0016] is the cross-bores 18 which may be angularly offset when they are located at an axially distance from each other. These bores, as is well known and as shown in the drawings, run transverse to the long axis of the nail either in the proximal portion or, with regard to FIG. 2, in the distal portion of the femur. The bores may be perpendicular to the longitudinal nail of these portions.

As discussed in the specification, the locking screw has a head 26 and a shank 28 which is threaded. The threaded shank portion 28 engages with a threaded bore 20 in FIG. 1, discussed in paragraph [0016] and 38 of FIG. 2.

In the previously filed Amendment Applicants have added to claim 1 that the biasing sleeve 30 which, as stated in the abstract, is resiliently deformable in an axial direction and is disposed between the head of the locking screw 26 and the shank of the locking nail. As clearly seen from the FIGS., the biasing sleeve shank extends adjacent (around) the locking screw about the transverse locking screw axis between the head of the locking screw and an outer surface of the locking nail. That shank contacts the outer surface of the locking nail shank surrounding the threaded bore or cross-bore 20 or 38.

Consequently, as the screw 24 is tightened via the engagement of the threads on the shank portion of the screw and the threads in cross-bore 20, 38, the biasing sleeve 30 is compressed. Note head 26 acts on flange 34 of the sleeve 30 (see paragraph [0018]) which flange bears against the bore and thus tightening the screw moves the nail towards the screw head deforming the sleeve.

With regard to claim 11, the bone screw has a head 26 and a leading second portion for insertion through the bore in the implant. Again, the bore extends along an axis that is transverse to a longitudinal axis of the implant shank either in the proximal or distal portions. The screw shank extends through the biasing element with its leading portion extending through threaded bore 28 or 38. The head 26 bears on the flange 34 of the biasing sleeve which is at the first end of the biasing element. An outer surface of the shank of the bone nail surrounding the bore engages a second end of the biasing element so that upon tightening the bone screw the biasing element resiliently deforms along the transverse axis of the bone screw. Again, this is described in the abstract of the invention as well as paragraph [0007] of the summary of the invention.

With regard to claim 22, the bone nail shank has a bore or opening therein which extends along an axis transverse to the axis of the long bone. These would be the axis of holes 18, 20 and 22 for example of FIG. 1. Again, the biasing sleeve second end or leading end engages the outer surface of the shank surrounding the bore see [0007]. Upon tightening the bone screw, the threaded portion 20 of shank 28 thereof engages the threads of bore 20, 38 and the head 26 of the bone screw engages flange 34 and further tightening deforms biasing sleeve 30. By compressing in claim 24, Applicants mean the axial deformation along the transverse axis which as described in paragraph [0018]

results in slightly contracting the sleeve in the axial direction.

If the Examiner considers the language of the claims to be confusing, Applicants are willing to consider alternate language. However, Applicants do believe that the claims as amended are supported by the specification.

With regard to new claims 25-30, Applicants believe that one of ordinary skill in the art in interpreting the specification, as discussed above, would understand the various element claims to be supported therein. The structure of the sleeve is taught in paragraph [0021] where it is taught that the sleeve includes a series of axially spaced circumferential slots 52 which allows sufficient elastic action to allow the sleeve to be slightly contracted in the axial direction as set forth in paragraph [0018]. With regard to claims 28-30, claim 28 merely claims the axially deformable sleeve in a broader manner for fixing a fractured bone portion as is shown, for example, in FIG. 3 of U.S. Patent No. 6,010,505 discussed in paragraph [0019]. Likewise, claim 29 is similar to claim 11 in that the resilient deformation of the first biasing element between the head of the screw and the nail or implant shank. Claim 30 is similar to claim 22 again merely requiring that the biasing sleeve be deformed in the axial direction of the bone screw.

As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable reconsideration and allowance are earnestly solicited.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he/she telephone applicant's attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

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Respectfully submitted,

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